WE CLAIM:

1. A thermoplastic polymer composition, comprising a blend of a polyolefin resin and a chemically-modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone comprising randomly substituted covalently bonded groups comprising a cyclodextrin compound; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

2. The thermoplastic polymer composition of claim 1 wherein composition comprises about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the polyolefin comprises a melt index of about 0.5 to 100 g-10 min^{-1} and the modified polyolefin is derived from a polyolefin having a melt index of about 0.7 to 200 g-10 $min.^{-1}$

3. The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a melt index of about 1 to 75 g-10 $min.^{-1}$ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 $min.^{-1}$

4. The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a polyethylene.

5. The thermoplastic polymer composition of claim 1 wherein the modified polyolefin comprises a modified polyethylene.

6. The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a polypropylene.

7. The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a polyethylene and the modified polyolefin comprises a modified polypropylene.

8. The thermoplastic polymer composition of claim 1 wherein the polyolefin comprises a poly(ethylene-co-propylene).

9. The thermoplastic polymer composition of claim 1 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

10. The thermoplastic polymer composition of claim 1 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic anhydride modified polyolefin wherein the polyolefin comprises about 0.02 to 5 weight percent maleic anhydride.

11. The thermoplastic polymer composition of claim 1 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic anhydride modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

12. The thermoplastic polymer composition of claim 4 wherein the polyethylene comprises a low-density polyethylene.

13. The thermoplastic polymer composition of claim 4 wherein the polyethylene comprises a linear low-density polyethylene.

14. The thermoplastic polymer composition of claim 4 wherein the polyethylene comprises a high-density polyethylene.

15. The thermoplastic polymer composition of claim 1 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2, -3 or the -6 position of a glucose moiety in the cyclodextrin.

16. A chip comprising a shaped polyolefin resin particulate with a major dimension of less than about 10 millimeters and a weight of about 20 to 50 milligrams, the chip comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone having randomly

substituted covalently bonded groups derived from a cyclodextrin compound, the chip comprising about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

17. The chip of claim 16 wherein the polyolefin comprises a melt index of about 0.5 to 100 g-10 min.$^{-1}$ and the modified polyolefin is derived from a polyolefin with a melt index of 0.7 to 200 g-10 min.$^{-1}$.

18. The chip of claim 16 wherein the polyolefin wherein the polyolefin comprises a melt index of about 1 to 75 g-10 min.$^{-1}$ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 min.$^{-1}$

19. The chip of claim 16 wherein the polyolefin comprises a polyethylene.

20. The chip of claim 16 wherein the modified polyolefin comprises a modified polyethylene.

21. The chip of claim 16 wherein the polyolefin comprises a polypropylene.

22. The chip of claim 16 wherein the modified polyolefin comprises a modified polypropylene.

23. The chip of claim 16 wherein the polyolefin comprises a poly(ethylene-co-propylene).

24. The chip of claim 16 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

25. The chip of claim 16 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 5 weight percent maleic anhydride.

26. The chip of claim 16 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

27. The chip of claim 19 wherein the polyethylene comprises a low-density polyethylene.

28. The chip of claim 19 wherein the polyethylene comprises a linear low-density polyethylene.

29. The thermoplastic polymer composition of claim 19 wherein the polyethylene comprises a high-density polyethylene.

30. The chip of claim 16 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group.

31. The chip of claim 16 wherein the cyclodextrin compound has a substituent substantially on at least one substituent at the -2,3 or the -6 position of a glucose moiety.

32. A container comprising an enclosed volume surrounded by a polyolefin web, the web comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone having randomly substituted covalently bonded groups derived from a cyclodextrin compound, the chip comprising about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

33. The container of claim 32 wherein the web comprises a laminate comprising a paperboard layer and a bonded polyolefin layer

34. The container of claim 32 wherein the web is filled with a liquid food.

35. The container of claim 34 wherein web has a capacity of about 100 mL to 3 liters and the liquid food comprises a citrus juice.

36. The container of claim 32 wherein the polyolefin comprises a polyolefin having a melt index of about 0.5 to 100 g-10 $min.^{-1}$

37. The container of claim 32 wherein the polyolefin comprises a polyolefin having a melt index of about 0.7 to 200 g-10 $min.^{-1}$

38. The container of claim 32 wherein the polyolefin comprises a polyethylene.

39. The container of claim 32 wherein the modified polyolefin comprises a modified polyethylene.

40. The container of claim 32 wherein the polyolefin comprises a polypropylene.

41. The container of claim 32 wherein the modified polyolefin comprises a modified polypropylene.

42. The container of claim 32 wherein the polyolefin comprises a poly(ethylene-co-propylene).

43. The container of claim 32 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

44. The container of claim 32 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

45. The container of claim 32 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 1 weight percent maleic anhydride.

46. The chip of claim 38 wherein the polyethylene comprises a low-density polyethylene.

47. The chip of claim 38 wherein the polyethylene comprises a linear low-density polyethylene.

48. The chip of claim 38 wherein the polyethylene comprises a high-density polyethylene.

49. A film comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a polymethylene backbone having randomly substituted groups derived from a cyclodextrin compound, the film comprising about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

50. The film of claim 49 wherein the film comprises a laminate comprising a paperboard layer and a polyolefin layer.

51. The film of claim 49 wherein the polyolefin comprises a melt index of about 0.5 to 100 g-10 $min.^{-1}$

52. The film of claim 49 wherein the polyolefin comprises a melt index of about 0.7 to 200 g-10 $min.^{-1}$

53. The film of claim 49 wherein the polyolefin comprises a polyethylene.

54. The film of claim 49 wherein the modified polyolefin comprises a modified polyethylene.

55. The film of claim 49 wherein the polyolefin comprises a polypropylene.

56. The film of claim 49 wherein the modified polyolefin comprises a modified polypropylene.

57. The film of claim 49 wherein the polyolefin comprises a poly(ethylene-co-propylene).

58. The film of claim 49 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

59. The film of claim 49 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2, -3 or the -6 position of the glucose moiety in the cyclodextrin.

60. The film of claim 49 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 5 weight percent maleic anhydride.

61. The film of claim 49 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic acid modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

62. The film of claim 53 wherein the polyethylene comprises a low-density polyethylene.

63. The film of claim 53 wherein the polyethylene comprises a linear low-density polyethylene.

64. The film of claim 53 wherein the polyethylene comprises a high-density polyethylene.

65. A thermoplastic polymer composition comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a cyclodextrin bonded to a backbone carbon of the polymer through a maleic acid residue or to a carbon in a pendent group through a maleic acid residue; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

66. The thermoplastic polymer composition of claim 65 wherein the composition comprises about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin, the polyolefin comprises a polyolefin having a melt index of about 0.5 to 150 g-10 min^{-1} and the modified polyolefin is derived from a polyolefin having a melt index of about 0.7 to 200 g-10 $min.^{-1}$

67. The thermoplastic polymer composition of claim 66 wherein the polyolefin comprises a melt index of about 1 to 75 g-10 $min.^{-1}$ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 $min.^{-1}$

68. The thermoplastic polymer composition of claim 65 wherein the polyolefin comprises a polyethylene.

69. The thermoplastic polymer composition of claim 65 wherein the modified polyolefin comprises a modified polyethylene.

70. The thermoplastic polymer composition of claim 65 wherein the polyolefin comprises a polypropylene.

71. The thermoplastic polymer composition of claim 65 wherein the polyolefin comprises a polyethylene resin and the modified polyolefin comprises a modified polypropylene.

72. The thermoplastic polymer composition of claim 65 wherein the polyolefin comprises a poly(ethylene-co-propylene).

73. The thermoplastic polymer composition of claim 65 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

74. The thermoplastic polymer composition of claim 65 wherein the modified polyolefin comprises about 0.1 to 8 wt% of the cyclodextrin modified polyolefin.

75. The thermoplastic polymer composition of claim 74 wherein the modified polyolefin comprises about 0.02 to 1 weight percent maleic acid compound.

76. The thermoplastic polymer composition of claim 68 wherein the polyethylene comprises a low-density polyethylene.

77. The thermoplastic polymer composition of claim 68 wherein the polyethylene comprises a linear low-density polyethylene.

78. The thermoplastic polymer composition of claim 65 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2,3 position of a glucose moiety in the cyclodextrin.

79. The thermoplastic polymer composition of claim 65 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -6 position of a glucose moiety in the cyclodextrin.

80. The thermoplastic polymer composition of claim 65 wherein the cyclodextrin compound is linked to the maleic acid moiety with least one -OH group at the -2,3 position of a glucose moiety in the cyclodextrin.

81. The thermoplastic polymer composition of claim 65 wherein the cyclodextrin compound is linked to the maleic acid moiety with least one -OH group at the -6 position of a glucose moiety in the cyclodextrin.

82. A thermoplastic polymer chip comprising a shaped polyolefin resin particulate with a major dimension of less than about 10 millimeters and a weight of about 15 to 50 milligrams, the chip comprising a blend of a polyolefin resin and a modified polyolefin resin, the modified polyolefin resin comprising a cyclodextrin bonded to a backbone carbon of the polymer through a maleic acid residue or to a carbon in a pendent group through a maleic acid residue; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

83. The thermoplastic polymer chip of claim 72 wherein chip comprises about 100 parts by weight of the polyolefin resin and about 0.01 to 10 parts by weight of the modified polyolefin, the polyolefin comprises melt index of about 0.5 to 150 g-10 min^{-1} and the modified polyolefin is derived from a polyolefin comprising a melt index of about 0.7 to 200 g-10 $min.^{-1}$

84. The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a melt index of about 1 to 75 g-10 $min.^{-1}$ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 $min.^{-1}$

85. The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a polyethylene.

86. The thermoplastic polymer chip of claim 82 wherein the modified polyolefin comprises a modified polyethylene.

87. The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a polypropylene.

88. The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a polyethylene resin and the modified polyolefin comprises a modified polypropylene.

89. The thermoplastic polymer chip of claim 82 wherein the polyolefin comprises a poly(ethylene-co-propylene).

90. The thermoplastic polymer chip of claim 82 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

91. The thermoplastic polymer composition of claim 82 wherein the modified polyolefin comprises about 0.1 to 8 wt% of the cyclodextrin modified polyolefin.

92. The thermoplastic polymer composition of claim 91 wherein the modified polyolefin comprises about 0.02 to 2 weight percent maleic acid compound.

93. The thermoplastic polymer chip of claim 85 wherein the polyethylene comprises a low-density polyethylene.

94. The thermoplastic polymer chip of claim 85 wherein the polyethylene comprises a linear low density polyethylene.

95. The thermoplastic polymer chip of claim 85 wherein the polyethylene comprises a high density polyethylene.

96. The thermoplastic polymer chip of claim 82 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2 position of a glucose moiety in the cyclodextrin.

97. The thermoplastic polymer chip of claim 82 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -3 position of a glucose moiety in the cyclodextrin.

98. The thermoplastic polymer chip of claim 82 wherein the cyclodextrin compound is linked to the maleic acid moiety with least one -OH group at the -6 position of a glucose moiety in the cyclodextrin.

99. The thermoplastic polymer chip of claim 82 wherein the cyclodextrin compound is linked to the maleic acid moiety with least one -OH group at the -6 position of a glucose moiety in the cyclodextrin.

100. A thermoplastic polymer composition, comprising a modified polyolefin resin comprising a polymethylene backbone comprising randomly substituted covalently bonded groups comprising a cyclodextrin compound; wherein the cyclodextrin compound is substantially free of a compound in the central pore of the cyclodextrin ring.

101. The thermoplastic polymer composition of claim 100 wherein the modified polyolefin is derived from a polyolefin having a melt index of about 0.7 to 200 g-10 $min.^{-1}$

102. The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a modified polyethylene.

103. The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a modified polypropylene.

104. The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a modified poly(ethylene-co-propylene).

105. The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic anhydride modified polyolefin wherein the polyolefin comprises about 0.02 to 5 weight percent maleic anhydride and wherein the polyolefin comprises a melt index of about 1 to 75 g-10 min.$^{-1}$ and the modified polyolefin is derived from a polyolefin having a melt index of about 1 to 100 g-10 min.$^{-1}$

106. The thermoplastic polymer composition of claim 100 wherein the modified polyolefin comprises a cyclodextrin bonded to a maleic anhydride modified polyolefin wherein the polyolefin comprises about 0.02 to 2 weight percent maleic anhydride.

107. The thermoplastic polymer composition of claim 102 wherein the polyethylene comprises a low-density polyethylene.

108. The thermoplastic polymer composition of claim 102 wherein the polyethylene comprises a linear low-density polyethylene.

109. The thermoplastic polymer composition of claim 102 wherein the polyethylene comprises a high-density polyethylene.

110. The thermoplastic polymer composition of claim 100 wherein the cyclodextrin compound has a substituent substantially on at least one -OH group at the -2, -3 or the -6 position of a glucose moiety in the cyclodextrin.